



Passenger- and operator-oriented scheduling of large railway projects

Kidd, Martin Philip; Lusby, Richard Martin ; Larsen, Jesper

Publication date:
2018

Document Version
Peer reviewed version

[Link back to DTU Orbit](#)

Citation (APA):
Kidd, M. P., Lusby, R. M., & Larsen, J. (2018). *Passenger- and operator-oriented scheduling of large railway projects*. Abstract from EURO/ALIO 2018, Bologna, Italy.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Passenger- and operator-oriented scheduling of large railway projects

Martin P. Kidd*

Department of Management Engineering, Technical University of Denmark, mpki@dtu.dk

Richard M. Lusby

Department of Management Engineering, Technical University of Denmark, rmlu@dtu.dk

Jesper Larsen

Department of Management Engineering, Technical University of Denmark, jesla@dtu.dk

Abstract The continued development and renewal of railway infrastructure and technology is necessary to enable railway operators to provide high quality services subject to ever increasing demand. However, the execution of large infrastructure projects causes disturbances in the network due to the occupation of infrastructure over extended periods of time. In this talk we present a multiobjective mixed-integer programming formulation for the scheduling of railway infrastructure projects that takes inconvenience caused to users of the infrastructure into account. We illustrate how the model can be used in an interactive way by planners based on their preferences, and we show that Pareto optimal solutions can be found in reasonable time using instances with realistic features. The result is a decision support model to aid infrastructure project planners in ensuring that passenger and operator inconvenience are also taken into account.

Keywords: *Project scheduling, railway infrastructure, passenger-oriented, multiobjective optimization, integer programming*